JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION

CONTENTS OF VOLUME 65

NUMBERS 329–332

THE 129TH ANNUAL MEETING

SUMMARIES OF PAPERS DELIVERED 1013

ARTICLES 9, 501, 1059, 1441

BOOK REVIEWS 455, 478, 1392, 1677

PUBLICATIONS RECEIVED 478, 1010, 1422, 1694

CORRIGENDA 1011

INDEX TO VOLUME 65, 1970

ARTICLES, BY AUTHOR 1702

BOOK REVIEWS, BY AUTHOR 1707

LIST OF REVIEWERS 1709

Published Quarterly by the

AMERICAN STATISTICAL ASSOCIATION

WASHINGTON, D. C.

1970

XUM

INDEX TO VOLUME 65 (1970)

ARTICLES*

ADDELMAN, SIDNEY, "Variability of Treatments and Experimental Units in the Design and Analysis of Experiments" (A) . . . 1095

AIGNER, DENNIS J. AND GOLDBERGER, ARTHUR S., "Estimation of Pareto's Law from Grouped Observations" (T&M) . . . 712

AL-ANI, SABRI (*see* PILLAI, K. C. SREEDHARAN) . . . 438

ANDERSEN, ERLING BERNHARD, "Sufficiency and Exponential Families for Discrete Sample Spaces" (T&M) . . . 1248

ANDERSON, D. A. (*see* SRIVASTAVA, J. N.) . . . 828

ANDREWS, DAVID F., "Calibration and Statistical Inference" (T&M) . . . 1233

ARNOLD, BARRY C., "Hypothesis Testing Incorporating a Preliminary Test of Significance" (T&M) . . . 1590

———, "Inadmissibility of the Usual Scale Estimate for a Shifted Exponential Distribution" (T&M) . . . 1260

BAIN, LEE J. (*see* HAGER, HAROLD W.) . . . 1601

BALESTRA, PIETRO, "On the Efficiency of Ordinary Least-Squares in Regression Models" (T&M) . . . 1330

BALINTFY, JOSEPH L., NETER, JOHN AND WASSERMAN, WILLIAM, "An Experimental Comparison Between Fixed Weight and Linear Programming Food Price Indexes" (A) . . . 49

BARCUN, SEYMOUR (*see* CHATTERJEE, SAMPRIT) . . . 150

BAYLESS, D. L. AND RAO, J. N. K., "An Empirical Study of Stabilities of Estimators and Variance Estimators in Unequal Probability Sampling ($n=3$ or 4)" (T&M) . . . 1645

BHATTACHARYYA, G. K. AND JOHNSON, RICHARD A., "Properties of a Rank Test of Cronholm and Revusky" (T&M) . . . 1308

———, JOHNSON, RICHARD A. AND NEAVE, H. R., "Percentage Points of Some Non-Parametric Tests for Independence and Empirical Power Comparisons" (T&M) . . . 976

BIRNBAUM, ALLAN, "On Durbin's Modified Principle of Conditionality" (T&M) . . . 402

——— AND MIKÉ, VALERIE, "Asymptotically Robust Estimators of Location" (T&M) . . . 1265

BOFINGER, EVE, "Maximizing the Correlation of Grouped Observations" (T&M) . . . 1632

BORUS, MICHAEL E., "Response Error and Questioning Technique in Surveys of Earnings Information" (A) . . . 560

BOWDEN, DAVID C., "Simultaneous Confidence Bands for Linear Regression Models" (T&M) . . . 413

BOX, G. E. P. AND PIERCE, DAVID A., "Distribution of Residual Autocorrelations in Autoregressive-Integrated Moving Average Time Series Models" (T&M) . . . 1509

BRADLEY, PAUL G. (*see* UHLER, RUSSELL S.) . . . 623

BRADU, DAN AND MUNDLAK, YAIR, "Estimation in Lognormal Linear Models" (T&M) . . . 198

BRESLOW, NORMAN, "Sequential Modification of the UMP Test for Binomial Probabilities" (T&M) . . . 639

BROWN, SARA M. (*see* TATE, MERLE W.) . . . 155

BURNETT, THOMAS D. AND GURTHRIE, DONALD, "Estimation of Stationary Stochastic Regression Parameters" (T&M) . . . 1547

CANNER, PAUL L., "Selecting One of Two Treatments When the Responses Are Dichotomous" (T&M) . . . 293

CARLETON, WILLARD T. (*see* MCGEE, VICTOR E.) . . . 1109

CARNEY, M. K., "Developments in Trading Patterns in the Common Market and EFTA" (A) . . . 1455

CHAN, LAI K., "Linear Estimation of the Location and Scale Parameters of the Cauchy Distribution Based on Sample Quantiles" (T&M) . . . 851

CHATTERJEE, SAMPRIT AND BARCUN, SEYMOUR, "A Nonparametric Approach to Credit Screening" (A) . . . 150

CHEW, VICTOR, "Covariance Matrix Estimation in Linear Models" (T&M) . . . 173

CLAYPOOL, P. L., "Linear Interpolation Within McCornack's Table of the Wilcoxon Matched Pair Signed Rank Statistic (T&M) . . . 974

CLÉROUX, ROBERT, "On Using an Incorrect Value of ρ in Group Divisible Two-Associate PBIB Designs" (T&M) . . . 844

COCHRAN, W. G., "Some Effects of Errors of Measurement on Multiple Correlation" (A) . . . 22

COHEN, M. L. (*see* GASTWIRTH, J. L.) . . . 946

* (A) denotes applications; (T&M) Theory and Methods.

XUM

CORNELL, JOHN A. AND GOOD, I. J., "The Mixture Problem for Categorized Components" (T&M) . . . 339
COWLES H. A. (*see* WHITE, R. E.) . . . 1204
CRAIG, GEORGE D., "Predictive Accuracy of Quarterly and Annual Aggregate Saving Functions" (A) . . . 1131
DAVIDSON, ROGER R., "On Extending the Bradley-Terry Model to Accommodate Ties in Paired Comparison Experiments" (T&M) . . . 317
DURBIN, J., "On Birnbaum's Theorem on the Relation Between Sufficiency, Conditionality and Likelihood" (T&M) . . . 395
EATON, M. L. AND EFRON, BRADLEY, "Hotelling's T^2 Test Under Symmetry Conditions" (T&M) . . . 702
ECKLER, A. ROSS, "Statisticians and Shoemakers ('Who Is Worse Shod Than the Shoemaker's Wife,' from Heywood's Proverbs)" . . . 9
EFRON, BRADLEY (*see* EATON, M. L.) . . . 702
ERICSON, W. A., "On the Posterior Mean and Variance of a Population Mean" (T&M) . . . 649
ESARY, J. D. AND PROSCHAN, F., "A Reliability Bound for Systems of Maintained, Interdependent Components" (T&M) . . . 329
FARLEY, JOHN U. AND HINICH, MELVIN J., "A Test for a Shifting Slope Coefficient in a Linear Model" (T&M) . . . 1320
FELDT, LEONARD S. (*see* HUYNH, HUYNH) . . . 1582
FIENBERG, STEPHEN E., "Quasi-Independence and Maximum Likelihood Estimation in Incomplete Contingency Tables" (T&M) . . . 1610
——— AND GILBERT, JOHN P., "The Geometry of a Two by Two Contingency Table" (T&M) . . . 694
FOX, MARTIN AND KIMELDORF, GEORGE S., "Values and Shooting Times in Noisy Duels" (T&M) . . . 422
FRANKEL, MARTIN R. (*see* KISH, LESLIE) . . . 1071
FRIEND, IRWIN AND THOMAS, WILLIAM, " Reevaluation of the Predictive Ability of Plant and Equipment Anticipations" (A) . . . 510
FRYER, J. G., "On the Nonparametric Tests of David and Fix for the Bivariate Two-Sample Location Problem" (T&M) . . . 1297
GASTWIRTH, J. L. AND COHEN, M. L., "Small Sample Behavior of Some Robust Linear Estimators of Location" (T&M) . . . 946
GILBERT, JOHN P. (*see* FIENBERG, STEPHEN E.) . . . 694
GILBERT, ROY F. (*see* KMENTA, JAN) . . . 186
GOLDBERGER, ARTHUR S. (*see* AIGNER, DENNIS J.) . . . 712
GOOD, I. J. (*see* CORNELL, JOHN A.). . . . 339
———, GOVER, T. N. AND MITCHELL, G. J., "Exact Distributions for X^2 and for the Likelihood-Ratio Statistic for the Equiprobable Multinomial Distribution" (T&M) . . . 267
GOODMAN, LEO A., "The Multivariate Analysis of Qualitative Data: Interactions Among Multiple Classifications" (T&M) . . . 226
GRAYBILL, FRANKLIN A. (*see* MILLIKEN, GEORGE A.). . . . 797
GREENBERG, IRWIN, "Tables of Poisson Sums of Normal Variables" (T&M) . . . 984
GOVER, T. N. (*see* GOOD, I. J.) . . . 267
GURLAND, JOHN (*see* HINZ, PAUL) . . . 887
GUTHRIE, DONALD (*see* BURNETT, THOMAS D.). . . . 1547
——— AND YOUSSEF, MARY N., "Empirical Evaluation of Some Chi-Square Tests for the Order of a Markov Chain" (A) . . . 631
HAGER, HAROLD W. AND BAIN, LEE J., "Inferential Procedures for the Generalized Gamma Distribution" (T&M) . . . 1601
HAHN, GERALD J., "Additional Factors for Calculating Prediction Intervals for Samples from a Normal Distribution" (T&M) . . . 1668
HAMMONDS, T. M. AND PADBERG, D. I., "A Quantitative Measure of the Risk Factor in Investment Decisions" (A) . . . 602
HEDAYAT, A. AND ROBSON, D. S., "Independent Stepwise Residuals for Testing Homoscedasticity" (T&M) . . . 1573
HIGGINS, GERALD F., "A Discriminant Analysis of Employment in Defense and Nondefense Industries" (A) . . . 613
HILL, BRUCE M., "Zipf's Law and Prior Distributions for the Composition of a Population" (T&M) . . . 1220
HINICH, MELVIN J. (*see* FARLEY, JOHN U.). . . . 1320
HINZ, PAUL AND GURLAND, JOHN, "A Test of Fit for the Negative Binomial and Other Contagious Distributions" (T&M) . . . 887
HOADLEY, BRUCE, "A Bayesian Look at Inverse Linear Regression" (T&M). . . . 356
HOLLANDER, MYLES, "A Distribution-Free Test for Parallelism" (T&M). . . . 387
HOLMES, JAMES M., "A Direct Test of Friedman's Permanent Income Theory" (A) 1159
HOLMES, R. A., "Discriminatory Bias in Rates Charged by the Canadian Automobile Insurance Industry" (A). . . . 108

XUM

HOWE, RICHARD B. AND MYERS, RAYMOND H., "An Alternative to Satterthwaite's Test Involving Positive Linear Combinations of Variance Components" (T&M) . . . 404
HUYNH, HUYNH, AND FELDT, LEONARD S., "Conditions Under Which Mean Square Ratios in Repeated Measurements Designs Have Exact *F* Distributions" (T&M) . . . 1582
IFRAM, ADNAN F., "On Mixtures of Distributions with Applications to Estimation" (T&M) . . . 749
JAYACHANDRAN, KANTA (*see* PILLAI, K. C. SREEDHARAN). . . . 447
JENNRICH, ROBERT I., "An Asymptotic χ^2 Test for the Equality of Two Correlation Matrices" (T&M). . . . 904
JESSEN, R. J., "Probability Sampling with Marginal Constraints" (T&M). . . . 776
JOHN, SLEEBA, "On Analyzing Mixed Samples" . . . 755
JOHNSON, RICHARD A. (*see* BHATTACHARYYA, G. K.) . . . 976
——— (*see* BHATTACHARYYA, G. K.) . . . 1308
KADANE, JOSEPH B., "Testing Overidentifying Restrictions When the Disturbances are Small" (T&M). . . . 182
KAIN, JOHN F. AND QUIGLEY, JOHN M., "Measuring the Value of Housing Quality" (A). . . . 532
KARSON, M. J., "Design Criterion for Minimum Bias Estimation of Response Surfaces" (T&M). . . . 1565
KIM, SUNGWOO, "Capital Appropriations and Investment Behavior" (A). . . . 1180
KIMELDORF, GEORGE S. (*see* FOX, MARTIN). . . . 422
KISH, LESLIE AND FRANKEL, MARTIN R., "Balanced Repeated Replications for Standard Errors" (A). . . . 1071
KMENTA, JAN AND GILBERT, ROY F., "Estimation of Seemingly Unrelated Regressions with Autoregressive Disturbances" (T&M). . . . 186
KNOTT, M., "The Small Sample Power of One-Sided Kolmogorov Tests for a Shift in Location of the Normal Distribution" (T&M). . . . 1384
LAUGHHUNN, D. J., "Distributional Effects in Demand Analysis: Observations and Predictive Tests" (A). . . . 576
LEE, FENG-YAO, "Estimation of Dynamic Demand Relations from a Time Series of Family Budget Data" (A) . . . 586
LEE, MAW LIN, "A Model of the Distribution of Federal Expenditures Among States" (A) . . . 136
LEUTHOLD, R. M., MACCORMICK, A. J. A., SCHMITZ, A. AND WATTS, D. G., "Forecasting Daily Hog Prices and Quantities: A Study of Alternative Forecasting Techniques" (A) . . . 90
LINGNER, JOAN W. (*see* SHEPS, MINDEL C.) . . . 678
LIU, BEN-CHIEH, "Determinants of Retail Sales in Large Metropolitan Areas, 1954 and 1963" (A). . . . 1460
LONG, LARRY H., "On Measuring Geographic Mobility" (A). . . . 1195
LONG, RICHARD, "Forecasting Specific Turning Points" (A) . . . 520
LOVELL, MICHAEL C. AND PRESCOTT, EDWARD, "Multiple Regression with Inequality Constraints: Pretesting Bias, Hypothesis Testing and Efficiency" (T&M) . . . 913
LUND, DAVID R. (*see* TIAO, G. C.) . . . 370
MACCORMICK, A. J. A. (*see* LEUTHOLD, R. M.) . . . 90
MCGEE, VICTOR E. AND CARLETON, WILLARD T., "Piecewise Regression" (A). . . . 1109
MALLIOS, WILLIAM S., "The Analysis of Structural Effects in Experimental Design" (T&M) . . . 808
MALLOWS, C. L. (*see* WILLIAMS, W. H.) . . . 1338
MAYNES, E. SCOTT (*see* NETER, JOHN) . . . 501
MEHRA, K. L. AND SMITH, G. E. J., "On Nonparametric Estimation and Testing for Interactions in Factorial Experiments" (T&M) . . . 1283
MENKEN, JANE A. (*see* SHEPS, MINDEL C.) . . . 678
MIKÉ, VALERIE (*see* BIRNBAUM, ALLAN) . . . 1265
MILLER, RUPERT, G., JR., "A Sequential Signed-Rank Test" (T&M) . . . 1554
MILLIKEN, GEORGE A. AND GRAYBILL, FRANKLIN A., "Extensions of the General Linear Hypothesis Model" (T&M) . . . 797
MITCHELL, G. J. (*see* GOOD, I. J.) . . . 267
MOSIMANN, JAMES E., "Size Allometry: Size and Shape Variables with Characterizations of the Lognormal and Generalized Gamma Distributions" (T&M) . . . 930
MOSTELLER, FREDERICK, "Collegiate Football Scores, U. S. A." (A) . . . 35
MUNDLAK, YAIR (*see* BRADU, DAN) . . . 198
MUNRO, A. H. AND WIXLEY, R. A. J., "Estimators Based on Order Statistics of Small Samples From a Three-Parameter Lognormal Distribution" (T&M) . . . 212
MURRAY, BARBARA B., "Coefficient of Interarea Variation as a Measure of Spatial Income Inequality" (A) . . . 598
MURTHY, M. N. AND ROY, A. S., "A Problem in Integration of Surveys—A Case Study" (A). . . . 123

XUM

MYERS, RAYMOND H. (*see* HOWE, RICHARD B.) . . . 404
NEAVE, H. R. (*see* BHATTACHARYYA, G. K.) . . . 976
NELSON, CHARLES R., "Testing a Model of the Term Structure of Interest Rates by Simulation of Market Forecasts" (A) . . . 1163
NETER, JOHN (*see* BALINTFY, JOSEPH L.) . . . 49
——— AND MAYNES, E. SCOTT, "On the Appropriateness of the Correlation Coefficient with a 0, 1, Dependent Variable" (A) . . . 501
ODOROFF, CHARLES L., "A Comparison of Minimum Logit Chi-Square Estimation and Maximum Likelihood Estimation in 2×2×2 and 3×2×2 Contingency Tables: Tests for Interaction" (T&M) . . . 1617
OSTRY, SYLVIA AND SUNTER, ALAN, "Definitional and Design Aspects of the Canadian Job Vacancy Survey" (A) . . . 1059
PADBERG, D. I. (*see* HAMMONDS, T. M.). . . . 602
PIERCE, DAVID A. (*see* BOX, G. E. P.) . . . 1509
PILLAI, K. C. SREEDHARAN AND AL-ANI, SABRI, "Power Comparisons of Tests of Equality of Two Covariance Matrices Based on Individual Characteristic Roots" (T&M). . . . 438
——— AND JAYACHANDRAN, KANTA, "On the Exact Distribution of Pillai's $V^{(s)}$ Criterion" (T&M). . . . 447
PRATO, ANTHONY A., "Measurement of Citrus Demands When All Variables Are Subject to Error" (A). . . . 1146
PRESCOTT, EDWARD (*see* LOVELL, MICHAEL C.) . . . 913
PRESTON, SAMUEL H., "The Age-Incidence of Death from Smoking" (A) . . . 1125
PROSCHAN, F. (*see* ESARY, J. D.). . . . 329
QUIGLEY, JOHN M. (*see* KAIN, JOHN F.). . . . 532
RAO, C. RADHAKRISHNA, "Estimation of Heteroscedastic Variances in Linear Models" (T&M) . . . 161
RAO, J. N. K. (*see* BAYLESS, D. L.) . . . 1645
RICHARDSON, DAVID H. AND WU, DE-MIN, "Least Squares and Grouping Methods Estimators in the Errors in Variables Model" (T&M) . . . 724
RIDLEY, JEANNE CLARE (*see* SHEPS, MINDEL C.) . . . 678
ROBSON, D. C. (*see* HEDAYAT, A.) . . . 1573
ROY, A. S. (*see* MURTHY, M. N.) . . . 123
SAMUEL, ESTER, "Randomized Sequential Tests. A Comparison Between Curtailed Single-Sampling Plans and Sequential Probability Ratio Tests" (T&M). . . . 431
SAVAGE, LEONARD J., "Comments on a Weakened Principle of Conditionality" (T&M) . . . 399
SCHEFFÉ, HENRY, "Practical Solutions of the Behrens-Fisher Problem" (T&M) . . . 1501
SCHMITZ, A. (*see* LEUTHOLD, R. M.) . . . 90
SHAH, K. R., "On the Loss of Information in Combined Inter- and Intra-Block Estimation" (T&M) . . . 1562
SHANBHAG, D. N., "The Characterizations for Exponential and Geometric Distributions" (T&M). . . . 1256
SHEPS, MINDEL C., MENKEN, JANE A., RIDLEY, JEANNE CLARE AND LINGNER, JOAN W., "Truncation Effect in Closed and Open Birth Interval Data" (T&M) 678
SHONICK, WILLIAM, "A Stochastic Model for Occupancy-Related Random Variables in General-Acute Hospitals" (A) . . . 1474
SHUMWAY, ROBERT H., "Applied Regression and Analysis of Variance for Stationary Time Series" (T&M). . . . 1527
SIRKEN, MONROE G., "Household Surveys with Multiplicity" (T&M). . . . 257
SKIBINSKY, MORRIS, "A Characterization of Hypergeometric Distributions" (T&M) . . . 926
SMITH, G. E. J. (*see* MEHRA, K. L.) . . . 1283
SOLOMON, H. AND ZACKS, S., "Optimal Design of Sampling from Finite Populations: A Critical Review and Indication of New Research Areas" (T&M) . . . 653
SOMERVILLE, PAUL N., "Optimum Sample Size for a Problem in Choosing the Population with the Largest Mean" (T&M). . . . 763
SRIKANTAN, K. S., "Canonical Association Between Nominal Measurements" (T&M) . . . 284
SRIVASTAVA, J. N. AND ANDERSON, D. A., "Optimal Fractional Factorial Plans for Main Effects Orthogonal to Two-Factor Interactions: 2^m Series" (T&M) . . . 828
STEFFENS, F. E., "Power of Bivariate Studentized Maximum and Minimum Modulus Tests" (T&M) . . . 1639
SUDMAN, SEYMOUR, "The Multiple Uses of Primary Sampling Areas of National Probability Samples" (A). . . . 61
SUNTER, ALAN (*see* OSTRY, SYLVIA) . . . 1059
TATE, MERLE W. AND BROWN, SARA M., "Note on the Cochran Q Test" (A). . . . 155
TENENBEIN, AARON, "A Double Sampling Scheme for Estimating from Binomial Data with Misclassifications" (T&M) . . . 1350
THEIL, HENRI, "The Cube Law Revisited" (T&M) . . . 1213

THOMAS, WILLIAM (*see* FRIEND, IRWIN) . . . 510
TIAO, G. C. AND LUND, DAVID R., "The Use of OLUMV Estimators in Inference Robustness Studies of the Location Parameter of a Class of Symmetric Distributions" (T&M) . . . 370
TONG, YUNG LIANG, "Some Probability Inequalities of Multivariate Normal and Multivariate t" (T&M) . . . 1243
TURNOVSKY, STEPHEN J., "Empirical Evidence on the Formation of Price Expectations" (A) . . . 1441
UHLER, RUSSELL S. AND BRADLEY, PAUL G., "A Stochastic Model for Determining the Economic Prospects of Petroleum Exploration Over Large Regions" (A) . . . 623
UTHOFF, VINCENT A., "An Optimum Test Property of Two Well-Known Statistics" (T&M) . . . 1597
WAGNER, S. S., "The Maximum-Likelihood Estimate for Contingency Tables with Zero Diagonal" (T&M) . . . 1362
WALSH, JOHN E., "Sample Size for Approximate Independence of Largest and Smallest Order Statistics" (T&M) . . . 860
WAMPLER, ROY H., "A Report on the Accuracy of Some Widely Used Least Squares Computer Programs" (A) . . . 549
WASSERMAN, WILLIAM (*see* BALINTFY, JOSEPH L.) . . . 49
WATTS, D. G. (*see* LEUTHOLD, R. M.) . . . 90
WEITZMAN, R. A., "Ideal Multiple-choice Items" (A) . . . 71
WHITE, JOHN S., "Tables of Normal Percentile Points" (A) . . . 635
WHITE, R. E. AND COWLES, H. A., "A Test Procedure for the Simulated Plant-Record Method of Life Analysis" (A) . . . 1204
WILLIAMS, W. H. AND MALLOWS, C. L., "Systematic Biases in Panel Surveys Due to Differential Nonresponse" (T&M) . . . 1338
WIXLEY, R. A. J. (*see* MUNRO, A. H.) . . . 212
WU, DE-MIN (*see* RICHARDSON, DAVID H.) . . . 724
YARNOLD, JAMES K., "The Minimum Expectation in X^2 Goodness of Fit Tests and the Accuracy of Approximations for the Null Distribution" (T&M) . . . 864
YOUSSEF, MARY N. (*see* GUTHRIE, DONALD) . . . 631
ZACKS, S., "Uniformly Most Accurate Upper Tolerance Limits for Monotone Likelihood Ratio Families of Discrete Distributions" (T&M) . . . 307
——— (*see* SOLOMON, H.) . . . 653

XUM

XUM